



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).



*Published to advance the Science of cold-blooded vertebrates*

## THE FRESH-WATER LAMPREYS OF THE EASTERN UNITED STATES.

In the lakes and streams of the United States East of the Rocky Mountains, five species of Lamprey are known to occur, beside the Sea Lamprey (*Petromyzon marinus* L.), which enters the streams to spawn. These should apparently bear the names indicated below.

### 1. PETROMYZON DORSATUS Wilder, *Lake Lamprey.*

A dwarfed derivative of the Sea Lamprey, abundantly land-locked in Cayuga Lake. It is very fully described by Gage in the Wilder Quarter Century Book, 1893, 420, as *Petromyzon dorsatus* Wilder. DeKay's *Ammocoetes unicolor* from Lake Champlain may be the larva of the same form. As this is by no means certain, it is better to adopt an unquestioned name. *P. dorsatus* is probably to be regarded as a subspecies rather than as a distinct species.

### 2. ICHTHYOMYZON CONCOLOR (Kirtland) *Silver Lamprey.*

This small Lamprey is rather common northward in the Mississippi Valley and in the Great Lake region. It has the narrow, divided median tooth of *Petromyzon*, but the dorsal is continuous. The oldest name, *Petromyzon argenteus* Kirtland (1840), is

preoccupied in Europe. The oldest name certainly belonging to this species is *Petromyzon bdellium* Jordan (1885), a substitute for the preoccupied *argenteus*. Kirtland's *Ammocoetes concolor* (1840) and Agassiz's *Ammocoetes borealis* are based on larvae, the former identifiable only through its coloration which is that of the adult, whitish with a row of bluish dots along the side.

### 3. ICHTHYOMYZON CASTANEUS (Girard). *Chestnut Lamprey*.

This little known species is distinguished from the last by the tricusped upper tooth, and the greater number of teeth in the plate below. It is recorded from Minnesota, Arkansas, Manitoba, Kansas and Louisiana.

### 4. LAMPETRA AEPYPTERA (Abbott). *Western Brook Lamprey*.

This small lamprey, reaching a length of 6 to 10 inches, is very abundant in most parts of the Mississippi Valley, ascending little brooks to spawn. The genus is known by the development of the upper tooth as a crescent shaped plate with a blunt cusp at either end instead of the distinct sharp upper teeth seen in *Petromyzon* and *Ichthyomyzon*. There are no distinct sharp lateral teeth, indeed no sharp teeth anywhere. From *L. wilderi*, *L. aepyptera* is distinguished by having only 53 to 56 muscular bands between the last gill opening and the vent, instead of 66 to 71 as in the latter species. Our specimens are from Griffith's Creek, Bloomington, Indiana and Big Prairie Creek, Monroe, Wisconsin. Fowler records the species from the Ohio River (type of *Ammocoetes aepyptera*), Grosse Ile and Ann Arbor, Michigan, Cedar Rapids, Iowa, and Broad River, Louisiana.

The oldest name of this lamprey is *Petromyzon niger* Rafinesque, (*Ichthyologia Ohiensis*, 1820).

But there was already a *Petromyzon niger* Lacepede in Europe, also a *Lampetra*.

The only remaining synonym is *Ammocoetes aepyptera* Abbott, Proc. Ac. Nat. Sci. Phil., 1860, 327, given to a young specimen from the Ohio River, with immature dentition. This has been well figured by Mr. Fowler (Proc. Ac. Nat. Sci. Phil., 1907, 465), who has very properly revived for it Abbott's specific name (misprinted *aepyptera* by Jordan and Evermann, and by Fowler).

5. *LAMPETRA WILDERI* (Gage), *Eastern Brook Lamprey*.

This species is very close to the preceding, differing, so far as noticed, almost entirely in the presence of 69 (67 to 71) muscular bands between the last gill-opening and the vent. In two transforming examples, Dr. Gage (in lit.) counts on the right side 69 bands, on the left 70. In three females, 69 to 71, in three breeding males, 70 to 71. It is abundant in most brooks of New York and northern New Jersey, extremely so about Cayuga Lake. Mr. Nichols (in lit.) records four specimens from the Hudson River about New York. These have 67 muscular bands. On three examples from Ramsey, New Jersey, Mr. Nichols counts 68 bands. The general range of the species has not been ascertained. It reaches a length of 6 to 10 inches. It has been very fully described as *Ammocoetes branchialis*, by Dr. Gage in the Wilder Quarter-Century Book, 1896, p. 493. In Jordan & Evermann's "Fishes of North and Middle America," the name *Lampetra wilderi* is accepted from Gage.

This name *wilderi* will stand, unless antedated by *Petromyzon appendix* De Kay (New York Fauna, Fishes, 1842, 342) from the Hudson River and from Providence.

DeKay's type was a small black lamprev, with the anal tube conspicuous, as in *L. wilderi*. But the teeth are described as follows: "A ring of irregularly

shaped corneous processes within the oral orifice and a large isolated double tooth of the same texture on the inferior portion of the mouth." This I cannot reconcile with the dentition of *Lampetra*. The small lampreys of the North Atlantic region need much further study, and the relation of *Petromyzon nigricans* Le Sueur to the sea lamprey should be determined.

DAVID STARR JORDAN,  
*Stanford University, Calif.*

### A NEW RECORD FOR RANA SEPTENTRIONALIS, BAIRD.

In COPEIA, No. 16, Mar. 15, 1916, I published a few notes on this species, which I recently had a chance to study in its native habitat.

On Aug. 8-9, 1917, I found it abundant at Tim Pond, Eustis, Franklin Co., Me. It occurred all around the pond; along rocky, wave-beaten shores, in marshes, and in the outlet stream close to the lake, but never far from the water. The tadpoles were transforming in the marsh at the north end of the pond and I collected many young frogs in pools along a buckboard road which skirted the marsh. Most of the tadpoles had completed their change before this date, but I collected a single one with large hind legs, measuring 1 15-16 inches including the tail. Most of the frogs found had evidently completed their change this summer and some retained the stump of a tail. They averaged  $1\frac{3}{4}$  inches long, snout to vent. The adults, of which I collected four, were nearly twice this size, 2 15-16 inches.

I also heard the call of these frogs and find that Mr. A. H. Nortons' description, quoted in the paper mentioned above, fits it admirably. While keeping some of these frogs in camp in a tin can I heard them give a slightly different call suggesting the bubbling note of *Rana pipiens*, but shriller and not quite so loud.